

Application No. 09/941,151  
Amendment dated September 24, 2004  
Pending Appeal

**Listing of Claims**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Claims 1-48 (previously canceled)**

**49.(currently amended)** A method of providing a custom orthodontic appliance for repositioning teeth of a patient comprising:

communicating, from an orthodontic practitioner, three-dimensional information from the mouth of a patient of the shapes of the teeth of the patient;

displaying, on a computer display for inspection by a person viewing the display, images of the teeth of the patient in suggested tooth positions and orientations that are based on the three-dimensional information;

communicating, from [[a]] the person viewing the display, feedback information regarding the suggested tooth positions and orientations toward which the teeth of the patient are to be moved by orthodontic treatment;

providing a custom design of orthodontic appliance that is configured to urge the teeth of the patient, when installed thereon, toward tooth positions and orientations and that has been manufactured based on the suggested tooth positions and orientations in accordance with the feedback information communicated from the person viewing the display.

**50.(currently amended)** The method of claim 49 wherein:

the person viewing the display is an orthodontic practitioner; and

the feedback information communicated from the person viewing the display

includes information selected from the group consisting essentially of information of changes to the suggested tooth positions and [[or]] orientations, and information approving tooth positions and orientations toward which the teeth of the patient are to be moved by the appliance.

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**51.(currently amended)** The method of claim 50 further comprising:  
providing the person viewing the display with a computer interface and displaying the images thereon;  
providing the computer interface with a capability for the entry by the person viewing the display of the feedback information communicated from the person viewing the display.

**52.(currently amended)** The method of claim 49 wherein:  
the feedback information communicated from the person viewing the display includes information of changes to the suggested tooth positions [[or]] and orientations; the method further comprises redisplaying images of the teeth in tooth positions and orientations revised in accordance with the feedback information communicated from the person viewing the display for inspection by the person viewing the display.

**53.(previously presented)** The method of claim 49 wherein:  
the three-dimensional information is derived at least in part from an impression of the teeth of the patient from the orthodontic practitioner; and  
the displaying of the images of the teeth of the patient is in response to data digitized from a model of the teeth made from the impression.

**54.(previously presented)** The method of claim 49 further comprising:  
communicating the three-dimensional information to a remote computing facility for the derivation of the suggested tooth positions and orientations from the three-dimensional information; and  
displaying digital images of the teeth of the patient in the suggested tooth positions and orientations on the computer display.

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**55.(previously presented) The method of claim 49 further comprising:**  
communicating the three-dimensional information to a remote computing facility for the derivation of the suggested tooth positions and orientations from the three-dimensional information; and  
displaying digital images of the teeth of the patient in the suggested tooth positions and orientations on the computer display;  
communicating, to an orthodontic appliance manufacturing facility having equipment thereat for manufacturing the custom orthodontic appliance, data that includes three-dimensional information of the shapes of the teeth of the patient and information regarding tooth positions and orientations toward which the teeth of the patient are to be moved by orthodontic treatment; and  
receiving from the orthodontic appliance manufacturing facility the custom orthodontic appliance for providing the appliance to the orthodontic practitioner for the treatment of the patient.

**56.(previously presented) The method of claim 49 further comprising:**  
communicating, to a remote orthodontic appliance manufacturing facility having equipment thereat for manufacturing the custom orthodontic appliance, data that includes three-dimensional information of the shapes of the teeth of the patient and information regarding tooth positions and orientations toward which the teeth of the patient are to be moved by orthodontic treatment; and  
receiving from the remote orthodontic appliance manufacturing facility the custom orthodontic appliance for providing the appliance to the orthodontic practitioner for the treatment of the patient.

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57.(currently amended) The method of claim 49 wherein:  
the feedback information communicated from the person viewing the display includes  
information selected from the group consisting essentially of information of  
changes to the suggested tooth positions [[or]] and orientations, and information  
approving tooth positions and orientations toward which the teeth of the patient  
are to be moved by the appliance;  
the method further comprises:  
providing the person viewing the display with a capability for entering feedback  
information in the form of change data from an orthodontic practitioner  
into a computer indicating selected changes in the suggested tooth  
positions and orientations;  
displaying on the computer images of the teeth in revised tooth positions and  
orientations in response to the feedback information communicated from  
the person viewing the display.

58.(previously presented) The method of claim 57 further comprising:  
establishing a digital communications link between a computer terminal and a digital  
computer at a remote location;  
transferring the three-dimensional information in digital form to the remote location;  
deriving with the digital computer at the remote location the suggested tooth positions and  
orientations;  
communicating digital data of the suggested tooth positions and orientations from the  
remote location to the computer display;  
communicating change data from the computer display to the computer at the remote  
location;  
calculating the revised tooth positions and orientations with the digital computer at the  
remote location in response to the change data;  
communicating digital data of the revised tooth positions and orientations from the  
remote location to the computer display.

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**59.(currently amended)** The method of claim **58** further comprising:  
entering commands accepting tooth positions and orientations at the computer display;  
communicating entered commands accepting tooth positions and orientations to the  
remote location; and  
processing [[the]] data of the accepted revised tooth positions and orientations and of the  
three-dimensional information and designing of the custom orthodontic appliance  
with the digital computer at the remote location.

**60.(previously presented)** The method of claim **59** further comprising:  
transmitting data of the designed custom orthodontic appliance from the remote location;  
displaying images of the designed custom orthodontic appliance on the computer display  
in response to the transmitted data;  
transmitting appliance modification data to the computer at the remote location and  
redesigning the appliance with the digital computer at the remote location in  
response to the transmitted appliance modification data.

**61.(previously presented)** The method of claim **49** wherein:  
the custom orthodontic appliance includes positioning jigs having surfaces thereon  
that conform to the shapes of the teeth of the patient.

**62.(currently amended)** The method of claim **49** wherein:  
the custom orthodontic appliance includes positioning jigs having surfaces thereon  
that conform to the shapes of the teeth of the patient; and  
the method further comprises:  
locating the jigs jig on the patient with said surfaces surface conforming to  
the shape of the ~~one or more~~ teeth,  
positioning the appliance on the ~~one or more~~ teeth with the jigs jig, and  
bonding the appliance so positioned to the tooth.

Claims **63-83** (canceled)

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**84.(currently amended) The method of claim 52 wherein:**  
**the feedback information communicated from the person viewing the display**  
includes information from an orthodontic practitioner approving the revised tooth positions and orientations as those toward which the teeth of the patient are to be moved by the appliance.

Claims 85-110 (canceled)